

-2-

**Amendment to the Claims:**

1. (Currently Amended) A method for reacquiring a target in an automated video tracking system, the method comprising the steps of:

(a) selecting a desired target to be tracked;

(b) constructing a computer model of the selected target;

5 (c) switching the automated video tracking system to an automatic track mode to initiate a tracking sequence to automatically track the selected desired target based on correlation between a video image of the selected, tracked target and the previously constructed computer model;

10 (d) ~~(e)~~ during said automatic track mode, the automated video tracking system calculating a confidence value indicating a degree of correlation between the tracked video image of the target and ~~[[a]]~~ the previously constructed computer model of said tracked target;

15 (e) ~~(d)~~ during said automatic track mode, the automated video tracking system providing a warning to a user indicating that said automatic track mode is about to fail whenever said calculated confidence value falls below a pre-determined threshold confidence value;

20 (f) ~~(e) switching the automated video tracking system from an automatic mode to a manual mode if the automated video tracking system encounters a period of difficulty in tracking the tracked selected desired target, manually guiding tracking the selected target until [[:]]~~ ~~(f) reacquiring of the selected desired target in manual mode in response to is reacquired and during said period of difficulty has passed;~~ and

25 (g) switching the automated video tracking system to the automatic mode for automatic tracking of the required selected desired target based on the previously constructed computer model without ~~initiating a new tracking sequence constructing a new computer model.~~

2. (Original) The method of claim 1, wherein step (a) comprises centering the desired target in a display of a scene including the desired target.

-3-

3. (Currently Amended) The method of claim 1, wherein step ~~(c)~~ ~~(b)~~ comprises releasing control of an input device used to select the desired target.

4. (Currently Amended) The method of claim 1, wherein step ~~(d)~~ ~~(e)~~ comprises controlling an input device used to select the desired target.

5. (Currently Amended) The method of claim 1, wherein step ~~(e)~~ ~~(d)~~ comprises centering the desired target in a display of a scene including the desired target.

6. (Currently Amended) The method of claim 1, wherein step ~~(f)~~ ~~(e)~~ comprises releasing control of an input device ~~used to reacquire~~ indicate that the desired target has been reacquired and to recommence automatic tracking based on the previously built computer model.

7. (Cancelled)

8. (Currently Amended) An apparatus for reacquiring a target in an automated video tracking system, the apparatus comprising:

selecting means for selecting a desired target to be tracked and causing a computer model of the selected target to be built;

5 mode switching means for switching the automated video tracking system ~~to and from one of~~ between an automatic mode ~~to initiate a tracking sequence after target selection~~ to automatically track the selected desired target based on a correlation between the video image of the tracked target and the previously built computer model and a manual mode;

10 calculation means for calculating a confidence value indicating a degree of correlation between the video image of the tracked target and ~~[[a]]~~ the previously constructed built computer model of said tracked target;

warning means for providing a warning to a user indicating that ~~said automatic track mode is about to fail whenever~~ said calculated confidence value falls

-4-

15 has fallen below a pre-determined threshold confidence value to prompt a user to enter the manual mode and manually track the selected target until the selected target has been reacquired with above the predetermined threshold confidence value;

reacquiring means for reacquiring the desired target in manual mode in response to and during the automated video tracking system encountering a period of  
20 difficulty in tracking the desired target;

wherein after reacquiring the desired selected target has been manually reacquired, recommencing tracking in the automated video tracking system is switched back to automatic mode based on the correlation between the tracked video image and the previously built computer model without initiating a new tracking  
25 sequence constructing a new video model.

9. (Currently Amended) The apparatus of claim 8, wherein the selecting means comprises an input device for centering the selected desired target in a display of a scene including the selected desired target.

10. (Currently Amended) The apparatus of claim 9, further comprising:

a video camera for capturing video image data of a scene including the video image of the tracked desired target;

5 pan and tilt camera motors for controlling a pan and tilt, respectively of the video camera; and

a video display for displaying the video image data;

wherein the input device is a joystick operatively connected to the pan and tilt motors such that movement of the joystick controls the movement of the  
10 camera through the pan and tilt motors in the manual mode.

11. (Currently Amended) ~~The An~~ apparatus ~~of claim 8, wherein~~ for reacquiring a target in an automated video tracking system, the apparatus comprising:

selecting means for selecting a desired target to be tracked;

-5-

5            mode selecting means for switching the automated video tracking system to and from one of an automatic mode to initiate a tracking sequence after target selection to automatically track the selected desired target and a manual mode.  
the mode selecting means comprises including:

10            an input device where the automated video tracking system is switched to automatic mode by controlling an input device used to select the desired target and the automated video tracking system is switched to manual mode by releasing control of the input device;

15            calculation means for calculating a confidence value indicating a degree of correlation between the video image of the tracked target and a previously constructed computer model of said tracked target;

warning means for providing a warning to a user indicating that said automatic track mode is about to fail whenever said calculated confidence value falls below a pre-determined threshold confidence value;

20            reacquiring means for reacquiring the desired target in manual mode in response to and during the automated video tracking system encountering a period of difficulty in tracking the desired target;

25            wherein after reacquiring the desired target the automated video tracking system is switched back to automatic mode without initiating a new tracking sequence.

12.        (Original) The apparatus of claim 11, further comprising:

a video camera for capturing video image data of a scene including the desired target;

5            pan and tilt camera motors for controlling a pan and tilt, respectively of the video camera; and

a video display for displaying the video image data;

wherein the input device is a joystick operatively connected to the pan and tilt motors such that movement of the joystick controls the movement of the camera through the pan and tilt motors.

-6-

13. (Currently Amended) The apparatus of claim [[8]] 11, wherein the ~~reacquiring means comprises an~~ input device for manually centering the ~~desired~~ selected tracked target in a video display of a scene including the ~~desired~~ video image of the tracked target.

14. (Currently Amended) The apparatus of claim 13, further comprising:

a video camera for capturing video image data of a scene including the ~~desired~~ video image of the tracked target;

5 pan and tilt camera motors for controlling a pan and tilt, respectively of the video camera; and

a video display for displaying the captured video image ~~data scene~~;

wherein the input device [[is]] includes a joystick operatively connected to the pan and tilt motors in the manual mode such that movement of the  
10 joystick manually controls the movement of the camera through the pan and tilt motors.

15. (Previously Presented) An automated video tracking system for tracking and reacquiring a target, the automated video tracking system comprising:

a video camera for capturing video image data of a scene including a desired target;

5 pan and tilt camera motors for controlling a pan and tilt, respectively, of the video camera;

a video display for displaying the video image data selecting means for selecting the desired target to be tracked;

mode switching means for switching the automated video tracking  
10 system to and from one of an automatic mode to initiate a tracking sequence after target selection to automatically track the selected desired target and a manual mode;

calculation means for calculating a confidence value indicating a degree of correlation between the video images of the tracked target and a previously constructed computer model of said tracked target;

-7-

15           warning means for providing a warning to a user indicating that said automatic track mode is about to fail whenever said calculated confidence value falls below a pre-determined threshold confidence value;

              reacquiring means for reacquiring the desired target in manual mode in response to and during the automated video tracking system encountering a period of  
20   difficulty in tracking the desired target;

              wherein after reacquiring the desired target the automated video tracking system is switched back to automatic mode without initiating a new tracking sequence.

16.       (Previously Presented) The automated video tracking system of claim 15, wherein the selecting means comprises an input device for centering the desired target in the display.

17.       (Original) The automated video tracking system of claim 16, wherein the input device is a joystick operatively connected to the pan and tilt motors such that movement of the joystick controls the movement of the camera through the pan and tilt motors.

18.       (Currently Amended) The automated video tracking system of claim [[15]] 22, wherein the ~~mode selecting means comprises an~~ input device ~~where~~ includes the selecting switch through which the automated video tracking system is switched to automatic mode ~~by controlling an input device used to select the~~  
5   ~~desired target and the automated video tracking system is switched to manual mode by releasing control of the input device.~~

19.       (Original) The automated video tracking system of claim 18, wherein the input device is a joystick operatively connected to the pan and tilt motors such that movement of the joystick controls the movement of the camera through the pan and tilt motors.

-8-

20. (Currently Amended) The automated video tracking system of claim [[15]] 22, wherein the ~~reacquiring means comprises an~~ input device for ~~entering~~ centers the desired target in [[a]] the display of [[a]] the scene ~~including the~~ desired to select the target to be tracked.

21. (Original) The automated video tracking system of claim 20, wherein

the input device is a joystick operatively connected to the pan and tilt motors such that movement of the joystick controls the movement of the camera  
5 through the pan and tilt motors.

22. (New) The apparatus of claim 15 wherein the selecting means and the reacquiring means includes:

an input device through which a user (a) manually controls the pan and tile motors, (b) designates the desired target to be tracked and causes a computer  
5 model of the selected target to be constructed, (c) manually controls the pan and tilt motors when the confidence value falls below the predetermined confidence value, and (d) causes the automated tracking system to switch back to the automatic mode to recommence tracking based on the previously constructed computer model.